UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/980,289	03/12/2002	Constantin Ilas	Ilas 2-6-6	1476

7590 07/11/2006	**EXAMINER**
Docket Administrator Room 3C 512	MAIS, MARK A
Lucent Technologies Inc	

ART UNIT	PAPER NUMBER
2616	

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DATE MAILED: 07/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/980,289	ILAS ET AL.
	Examiner	Art Unit	
	Mark A. Mais	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>27 June 2006</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-15</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-15</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness

rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

2. Claims 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beming et al.

(WO 99/16264) in view of Stacy et al. (USP 6,434,154).

3. With regard to claim 1, Beming et al. discloses a method of transmitting speech frames in a

TDMA packet switched network **[data blocks used to send voice or video, page 1, lines 16-22]**

in which at least one time-slot of the TDMA frame is allocated to at least two users, the method

comprising:

encoding **[encoded on the RLC level, page 4, lines 24-27]** user data **[user data, page 6,**

lines 31-32; user data can be real time (speech) or non real time, page 3, line 29 to page 4,

line 2] from the at least two users into a single RLC/MAC block; and transmitting at least a

portion of the encoded RLC/MAC block in the at least one time-slot **[data from each packet**

data unit (PDU) is multiplexed into one transmission block for transmission/delivery over

one channel, page 7, line 29 to page 8, line 4; *see also* **Fig. 6]**.

Beming et al. does not specifically disclose a TDMA packet-switched network in which

one time-slot for a TDMA frame is allocated to at least two users. Beming et al. discloses a

multiple access method, which handles multiple services **[page 1, lines 13-14]**. Beming et al.

also discloses transmitting multiples types of data from a mobile station at multiple transmission

rates **[page 1, lines 13-22]**. Stacy et al. (USP 6,434,154) discloses a TDMA packet-switched

network that uses a multiple access method, which handles multiple transmission rates

[Abstract, col. 6, lines 15-29]. Stacy et al. accomplishes this by subdividing one timeslot of a

TDMA frame into several mini-slots, which can be allocated to [plural] user traffic on an

individual [interpreted as dynamic] basis **[col. 4, lines 37-41]**. Stacy et al. allocates periodic

mini-slots to lower bit-rate services while allocating high bit-rate services to larger blocks

(comprised of multiple mini-slots) **[Abstract; col. 6, lines 15-29]**. Stacy et al. further discloses

that one frame may be allocated to more than one user **[col. 6, lines 26-29]**. Thus, it would have

been obvious to one of ordinary skill in the art at the time of the invention to have used a

multiple access method, such as TDMA, to handle plural types of transmission rates by

allocating more than one user to each TDMA frame and subdividing a timeslot into several mini-

slots which can be allocated to user traffic on an individual [interpreted as dynamic] basis **[col. 4,

lines 37-41]**.

4. With regard to claim 2, Beming et al. discloses that the transmitting step comprises

transmitting the encoded RLC/MAC block in a plurality of time-slots, wherein the plurality

includes the at least one time slot **[data from each packet data unit (PDU) is multiplexed into**

one transmission block for transmission/delivery over one channel, page 7, line 29 to page

8, line 4; *see also* Fig. 6].

5. With regard to claim 3, Beming et al. discloses that the transmitting step includes a step of

interleaving the RLC/MAC block such that the at least one time-slot carries at least a part of the

user data from each of the two users [**data from each packet data unit (PDU) is multiplexed**

into one transmission block for transmission/delivery over one channel, page 7, line 29 to

page 8, line 4; *see also* Fig. 6].

6. With regard to claim 4, Beming et al. discloses that the at least one time-slot carries at least a

part of the user data from each of the two users [**data from each packet data unit (PDU) is**

multiplexed into one transmission block for transmission/delivery over one channel, page 7,

line 29 to page 8, line 4; *see also* Fig. 6].

7. With regard to claim 5, Beming et al. discloses that the network is an EDGE packet switched

network [**it is inherent that one of several TDMA packet data networks applicable to the**

disclosed invention includes GSM, EDGE, or UMTS];

the user data is speech [**user data, page 6, lines 31-32; user data can be real time**

(speech) or non real time, page 3, line 29 to page 4, line 2]; and

the transmitting step comprises transmitting the RLC/MAC block in four of the plurality

of time-slots [**the PDUs are interleaved according to bit rate services such that one**

transmission block can carry four interleaved lower bit rate PDUs or the interleaved

high bit rate PDUs are spread over four transmission blocks, page 7, line 17-28] .

8. With regard to claim 6, Beming et al. discloses that each time slot carries a quarter of the

encoded user data for each user **[when spreading the interleaved high bit rate PDUs over four**

transmission blocks, the minimum number of interleaved PDUs per transmission is one

(and, therefore, one-fourth of the interleaved data), page 7, lines 17-28].

9. With regard to claim 7, Beming et al. discloses that the transmitting step includes a step of

interleaving the RLC/MAC block such that in each TDMA frame the at least one time slot

carries at least a part of the user data from only one of the two users **[when combining two**

same-transmission-rate radio bearers, the use of both variable and available bit rate

services together will inherently send one user's PDUs, and, while the other user is "idle"

(and not sending any PDUs), will attempt to multiplex the available bit rate service onto the

same channel, page 8, lines 15-23].

10. With regard to claim 8, Beming et al. discloses that each TDMA frame the at least one time-

slot carries at least a part of the user data from one of the two users **[when combining two same-**

transmission-rate radio bearers, the use of both variable and available bit rate services

together will inherently send one user's PDUs, and, while the other user is "idle" (and not

sending any PDUs), will attempt to multiplex the available bit rate service onto the same

channel, page 8, lines 15-23].

11. With regard to claim 9, Beming et al. discloses that an encoded speech frame from each of the two users is carried over an alternate ones of a plurality of time slots, wherein the plurality of time slots include the at least one time slot **[the PDUs are interleaved according to bit rate services such that one transmission block can carry four interleaved lower bit rate PDUs or the interleaved high bit rate PDUs are spread over four transmission blocks, page 7, line 17-28].**

12. With regard to claim 10, Beming et al. discloses that the network is an EDGE packet switched network **[it is inherent that one of several TDMA packet data networks applicable to the disclosed invention includes GSM, EDGE, or UMTS]** ;

the user data is speech **[user data, page 6, lines 31-32; user data can be real time (speech) or non real time, page 3, line 29 to page 4, line 2]**; and

the transmitting step comprises transmitting the RLC/MAC block in four of the plurality of time-slots **[the PDUs are interleaved according to bit rate services such that one transmission block can carry four interleaved lower bit rate PDUs or the interleaved high bit rate PDUs are spread over four transmission blocks, page 7, line 17-28].**

13. With regard to claim 11, Beming et al. discloses that alternate time slots carry half of the encoded user data for each user **[similar to the description above, if the two of the user's PDUs (for example, 16 PDUs) are transmitted over eight time-slots (4 time-slots and their 4**

alternate time-slots), half of the encoded user data for each user (8 PDUs) will be carried by the 4 alternate time-slots, page 7, lines 17-28].

14. With regard to claim 12, Beming et al. discloses that the user data comprises speech [user data, page 6, lines 31-32; user data can be real time (speech) or non real time, page 3, line 29 to page 4, line 2].

15. With regard to claim 13, Beming et al. discloses that the network is a wireless network [mobile station and base station, page 1, lines 16-22; Fig. 1], and

the speech frames are transmitted on the down-link of the network [speech frames are sent via layer 2 (RLC/MAC protocol layer) between both (1) the mobile station and the base station/network, and (2) the base station and the mobile station (i.e., radio resource management and radio link control), page 4, lines 14-20; Fig. 2].

16. With regard to claim 14, Beming et al. discloses that the network is a wireless network [mobile stations and base station, page 1, lines 16-22; Fig. 1]; and

user data is transmitted on the up-link of the network [speech frames are sent via layer 2 (RLC/MAC protocol layer) between both (1) the mobile station and the base station/network, and (2) the base station and the mobile station (i.e., radio resource management and radio link control), page 4, lines 14-20; Fig. 2].

17. With regard to claim 15, Beming et al. discloses that the at least one time-slot simultaneously carries at least a part of the user data from each of the two users **[data from each PDU from each user is multiplexed into one transmission block for transmission/delivery over one channel, page 7, line 29 to page 8, line 4;** *see also* **Fig. 6]**.

Response to Arguments

18. Applicant's arguments filed June 27, 2006 have been fully considered but they are not persuasive.

19. Applicant's representative notes that Beming et al. discloses supporting multiple RLC-PDU blocks within a mobile system **[Applicant's Response dated June 27, 2006, page 1, lines 22-28]**. Applicant's representative, apparently, argues that the examiner has not met requirements of applicant's claim 1. Examiner respectfully disagrees. The claim language has been interpreted by the examiner to show a multiple access packet-based network that provides services to users involving RLC encoding **[see Claim 1 above]**.

20. Applicant's representative further argues that Beming et al. does not disclose encoding user data from at least two users into a single time-slot for a TDMA frame **[Applicant's Response dated June 27, 2006, page 2, lines 4-8]**. Applicant's representative re-emphasizes the same deficiency in Beming et al. **[Applicant's Response dated June 27, 2006, page 2, lines 9-13]**.

The examiner agrees with Applicant's representative. The examiner has *specifically* disclosed

this deficiency in Beming et al. in paragraph 3 above. Moreover, such deficiency is obvious **[see**

claim 1 above].

21. Applicant's representative then argues that (the combination of Beming et al. and) Stacey et

al. does not specifically disclose encoding user data from at least two users into one block

[Applicant's Response dated June 27, 2006, page 2, lines 23-29]. The examiner respectfully

disagrees.

22. To be succinct, the examiner must respectfully re-state the rejection of claim 1 with respect

to Stacey et al.:

> *Stacy et al. allocates periodic mini-slots to lower bit-rate services while allocating high*
> *bit-rate services to larger blocks (comprised of multiple mini-slots) [Abstract; col. 6, lines 15-*
> *29]. Stacy et al. further discloses that one frame may be allocated to more than one user [col. 6,*
> *lines 26-29]. Thus, it would have been obvious to one of ordinary skill in the art at the time of the*
> *invention to have used a multiple access method, such as TDMA, to handle plural types of*
> *transmission rates by allocating more than one user to each TDMA frame and subdividing a*
> *timeslot into several mini-slots which can be allocated to user traffic on an individual*
> *[interpreted as dynamic] basis [col. 4, lines 37-41].*

23. Thus, Stacey et al. specifically discloses the use of one frame by more than one user while

Beming et al. specifically discloses the use of multiple RLC/MAC blocks within the same frame

[see claim 1 above].

Conclusion

24. Accordingly, **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension

of time policy as set forth in 37 CFR 1.136(a).

25. A shortened statutory period for reply to this final action is set to expire THREE MONTHS

from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of

the mailing date of this final action and the advisory action is not mailed until after the end of the

THREE-MONTH shortened statutory period, then the shortened statutory period will expire on

the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be

calculated from the mailing date of the advisory action. In no event, however, will the statutory

period for reply expire later than SIX MONTHS from the mailing date of this final action.

26. Any inquiry concerning this communication or earlier communications from the examiner

should be directed to Mark A. Mais whose telephone number is 572-272-3138. The examiner

can normally be reached on M-Th 5am-4pm.

27. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor,

Seema Rao can be reached on 571-272-3174. The fax phone number for the organization where

this application or proceeding is assigned is 571-273-8300.

28. Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MAM

June 28, 2006

Seema S. Rao

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